Indian J Hematol Blood Transfus (Oct-Dec 2018) 34(4):727–730
https://doi.org/10.1007/s12288-018-0980-7

SHORT COMMUNICATION

Relationship Between Haemostasis Parameters and Anxiety Under Examination Stress: A Pilot Study

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Received: 19 December 2017 / Accepted: 3 July 2018 / Published online: 6 July 2018

Abstract This work aims to clarify how blood coagulation parameters reflect mild stress response in males and females. Healthy student volunteers of both sexes were used in this pilot study. A new global sensitive assay of haemostasis, spatial thrombodynamics, along with conventional coagulometry approach were used to evaluate of blood coagulation parameters. Psychodiagnostics scales (according to Spielberger and Taylor) are employed to evaluate anxiety as stress-induced response. We have selected exam stress, which despite being a mild stressor may nevertheless cause somatic disorders. We provide the first evidence of a statistically significant increase in initial clot growth velocity in women, but not men, in response to exam stress. The exam situation produces higher situational anxiety in female volunteers, and so they express remarkable stress-induced haemostatic responses, including plasma- and platelet-based changes. In contrast, male volunteers do not express pronounced stress-induced changes in haemostasis, and only display a decrease in plateletcrit value and an increase in prothrombin time. Mild form of stress (exam) induces changes in some blood coagulation parameters. A statistically significant remarkable increase in V_{init} value and some other plasma- and platelet-based parameters has been seen in female students (but not male ones) under exam stress.

Keywords Haemostasis · Blood coagulation · Anxiety · Gender · Stress · Thrombodynamics

Abbreviations

V_{init}	The initial velocity of induced thrombosis
V_{steady}	The steady velocity of induced thrombosis
d_{Speed}	The difference between the initial and steady velocity of induced thrombosis
PT	Prothrombin time
INR	International normalized ratio
APTT	Activated partial thromboplastin time
PLT	Absolute number of platelets
MPV	The average platelets' volume
PCT	Thrombocrit
STAI	State-trait anxiety inventory
TMAS	Teilor's Manifest Anxiety Scale

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